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HISTORY OF NAVY MEDICINE

# THE EFFECTS OF COMBAT DUTY ON RATINGS BY SUPERIOR OFFICERS

REPORT NUMBER: 68-7



NAVY MEDICAL  
**NEUROPSYCHIATRIC RESEARCH UNIT**

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## THE EFFECTS OF COMBAT DUTY ON RATINGS BY SUPERIOR OFFICERS\*<sup>1</sup>

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### A. INTRODUCTION

Does knowledge that a person has undergone a period of extreme environmental stress affect the valuation of that individual's effectiveness? There is a great deal of anecdotal information to suggest that individuals who have chosen to undergo periods of acute deprivation or stress are held in high esteem by their peers. These situations are generally characterized by voluntary participation and a relatively small number of participants. The very uniqueness of the situation may account for the high valuations given its members. Less obvious is the effect of participation in a stressful situation when participation is expected or even demanded of the individual and when there are numerous other participants. The literature on stereotypic attitudes suggests that knowledge that a person belongs to a particular group or has engaged in a particular activity will alter the evaluator's judgment in keeping with his pre-existing stereotypes. There is, however, little known concerning attitudes toward men who have engaged in war; some people may assume that it brings out the best in men—others assume it brings out the worst.

Another question which has been debated, especially in military circles, is whether men with past records of ineffectiveness can perform creditably in high stress situations. While military folklore abounds with tales of "ne'er-do-wells" who have performed meritoriously when in a combat situation, such claims have received no support when put to the actual test (1, 2). Nevertheless, no study has been found which reported on postcombat evaluations of men with poor effectiveness ratings.

This study was concerned with determining the effect of an enlisted man's

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\* Received in the Editorial Office, Provincetown, Massachusetts, on June 4, 1968, and published immediately at 35 New Street, Worcester, Massachusetts. Copyright by The Journal Press.

<sup>1</sup> Report Number 68-7, December 1967, supported by the Bureau of Medicine and Surgery, Navy Department, under Research Task M4305.09-3001. Opinions or assertions contained herein are the private ones of the author and are not to be construed as official or as necessarily reflecting the view of the Department of the Navy.

<sup>2</sup> The author wishes to thank Miss Anne Hoiberg for her able work in handling computer programming and her assistance with the statistical analysis.



participation in combat on ratings of effectiveness by his superior officer. More specifically, it attempted to evaluate on various criteria of effectiveness the relative effects of (a) direct observation of a man under combat conditions, (b) indirect knowledge that a man has served under combat conditions, and (c) knowledge that a man has not served under combat conditions. For this purpose, a contingent of Marines was studied, some of whom had served under combat conditions and some of whom had not.

### B. PROCEDURE

This study was part of a four-year longitudinal research project concerned with the prediction of Marine effectiveness. The original sample consisted of a group of approximately 13,000 recruits who had entered the recruit training phase at various times during a 12-month period from October 1961 through September 1962. Of this sample, more than 10,000 Marines were still on active duty when data collection commenced on this project, the others having been separated from the service for such reasons as physical disability, unsuitability, unfitness, and sentence of court martial (1).

Two forms were mailed to the commanding officer of each of the men remaining in the sample. One of these forms was concerned with the Marine's average proficiency mark over his entire enlistment period, his average conduct mark over the same period, and his present pay grade. The other form instructed the Marine's superior officer to rate the Marine's effectiveness while under his immediate supervision. The officer was also instructed to note whether he had observed the Marine under fire (UFO), whether the Marine had been under fire but not observed (UFNO), or whether the Marine had not been under fire (NUF). This breakdown allowed comparisons of Marines falling into each of the three categories (UFO, UFNO, and NUF) on each of the three criteria (superior officer rating [SOR], proficiency marks, and conduct marks).

The SOR was a seven-point scale ranging from outstanding Marine, 7, to inferior Marine, 1. Paragraph descriptions were given as guidelines in rating Marines: e.g., an above-average Marine (rating of 5) was described as one who

learns quickly and takes orders well; is always on hand when you need him; remains calm when the going gets rough and sticks to his assignment until he's finished; works for the team and is a good solid man to have in any platoon.

The proficiency and conduct marks were divided into six categories: 0-1.9, 2-2.9, 3-3.9, 4-4.4, 4.5-4.8, and 4.9-5.0. These gradings are given semiannually

and are frequently the basis for determining whether a Marine is promoted. Generally speaking, ratings below 4.0 are considered indicative of a below-average performance, while ratings above 4.4 indicate above-average performance, the mode being 4.0 to 4.4. The conduct mark reflects military bearing and leadership, while the proficiency mark reflects knowledge and performance of the job to which he is assigned.

Information on proficiency marks was completed on 6,007 Marines. Information on the conduct marks of 5,997 Marines and SORs on 6,115 Marines were also obtained. Of the total contingent, 5,284 Marines were NUF, 648 were UFNO, and 183 were UFO. The mean number of months spent on active duty was 45.5.

### C. RESULTS

The contingent of Marines was divided into those who were observed under fire, those whose commanding officer had knowledge of their being under fire but who did not have the opportunity to observe them in combat, and those who had not been under fire. These three groups were compared on the basis of their average conduct marks, average proficiency marks, and ratings by their current superior officer. An analysis of the association between the categories UFO, UFNO, NUF, and the criteria of effectiveness resulted in nonsignificant relationships when the criteria were conduct marks or proficiency marks, but in a significant relationship when the criterion was SOR (chi square = 83.17,  $df = 12$ ,  $p < .001$ ). Inspection of Table 1A and Table 1B revealed that those Marines observed under fire had higher SORs than Marines who had been under fire but not observed, and that this group of Marines, in turn, had higher SORs than Marines who had not been in combat.

At this point it appeared that there was a halo effect for Marines who had been in combat, and that this effect was translated into higher SORs for Marines in combat compared to Marines not in combat. Further analysis of the data, however, revealed that there was a disproportionate number of Marines with higher ranks in combat than Marines not in combat (chi square = 33.44,  $df = 8$ ,  $p < .001$ ). It was entirely possible that the higher ranks of Marines in combat signified that a better brand of Marine was in combat, which was, in turn, reflected in SOR.

Another possibility was that the commanding officer's ratings were influenced by knowledge of a Marine's rank rather than the knowledge that he was under fire. Furthermore, Marines in combat may have been older, more intelligent, and better educated, factors which could have accounted for the relatively high superior officer ratings for these Marines. This eventuality was examined by

TABLE 1A  
DISTRIBUTIONS ON CRITERIA MEASURES FOR MARINES NOT UNDER FIRE, UNDER FIRE NOT OBSERVED, AND OBSERVED UNDER FIRE

	Superior officer ratings															Mean
	Inferior		Below average				Above average				Outstanding					
	1		2		3		4		5		6		7			
	N	%	N	%	N	%	N	%	N	%	N	%	N	%		
NUF	90	2	141	3	505	10	1410	27	1846	35	1034	20	258	5	4.687	
UFNO	7	1	13	2	50	8	144	22	241	37	153	24	40	6	4.880	
UFO	0	0	2	1	7	4	24	13	61	33	64	35	25	14	5.383	

TABLE 1B  
DISTRIBUTIONS ON CRITERIA MEASURES FOR MARINES NOT UNDER FIRE, UNDER FIRE NOT OBSERVED, AND OBSERVED UNDER FIRE

	Below average								Above average				Mean
	0-1.9		2-2.9		3-3.9		4-4.4		4.5-4.8		4.9-5.0		
	N	%	N	%	N	%	N	%	N	%	N	%	
Average proficiency marks													
NUF	0	0	4	0	368	7	3495	67	1300	25	24	0	4.187
UFNO	0	0	1	0	34	5	452	71	148	23	3	0	4.185
UFO	0	0	0	0	5	3	126	71	46	26	1	1	4.242
Average conduct marks													
NUF	2	0	15	0	386	7	3119	60	1624	31	37	1	4.246
UFNO	0	0	1	0	38	6	422	66	170	27	5	1	4.220
UFO	0	0	0	0	9	5	112	66	56	31	1	1	4.275



entering the Ss' age, educational level, information about their school history, including whether they had ever failed a grade or been expelled, the number of clubs they belonged to, and their high school rank, aptitude test scores upon entering the Marine Corps, a sociometric rating by their peers in boot camp, average conduct and proficiency marks, and pay grade and combat status, into a multiple regression analysis to predict superior officer rating. In order to have a cross-validation sample for this analysis, the contingent of Marines was divided into validation and cross-validation samples using a stratified randomization procedure. The regression analysis employed a deletion phase in which all predictor variables were initially used to obtain a multiple  $R$ , and variables were consecutively dropped from the analysis. A new multiple  $R$  was computed after each deletion and an  $F$  ratio for the differences between the old and new multiple  $R$  was given. Those variables which contributed least to the criterion were dropped first.

The results of this analysis can be seen in Table 2. Only those predictor variables are shown that contributed significantly to the criterion. As shown in Table 2, whether or not a Marine is UFO, UFNO, or NUF is a significant determinant of the superior officer rating he receives independently of all other variables examined in this analysis. Combat status was one of the last variables deleted from the analysis, indicating that its contribution to the SOR criterion was unique and significant. Combat status had negligible correlations with the other predictor variables and only the correlation with sociometric rating was significant ( $r = .06$ ,  $p < .05$ ). The correlation of combat status with the SOR criterion was .11 ( $p < .01$ ). Because a large portion of the group examined had not been in combat, the amount of predictor variance available from this variable was low. Cross-validation of the multiple  $R$  was .51, which indicated good stability for the predictor variables.

The relative effects on SOR of a Marine's being UFO or UFNO as compared to NUF had not yet been determined. Two separate analyses were run:

TABLE 2  
PREDICTABILITY OF SUPERIOR OFFICER RATINGS BY MULTIPLE REGRESSION ANALYSIS

Variable	Multiple $R$	Number of variables	Correlation with criterion	Beta weight
Age	.557	8	.182	.035
Sociometric rating	.556	7	.137	.035
EI (aptitude score)	.555	6	.101	.047
Education	.553	5	.224	.058
Conduct marks	.550	4	.396	.130
Combat status	.541	3	.111	.095
Proficiency marks	.553	2	.422	.232
Pay grade	.494	1	.494	.494

mean differences on SOR between UFO and UFNO, and mean differences on SOR between UFNO and NUF. These analyses were run for the validation and cross-validation samples separately. As can be seen in Table 3, both of the comparisons yielded significant mean differences on SOR for both the validation and cross-validation samples.

The final analysis was concerned with the effect of participation in combat on SOR for a group of ineffective Marines. Marines who have not risen above the rank of private first class, who have had one or more courts martial, who had three or more office hours for disciplinary reasons, or who have conduct marks below 4.0 may be classified as administrative nuisances after Berry and Nelson (1). These individuals were singled out for the group as a whole, divided into UFO, UFNO, and NUF, and compared on SORs. As Table 4 clearly shows, administrative nuisances had significantly higher SORs if they had been observed under fire than if they had been under fire but not observed. Those administrative nuisances UFNO, in turn, had higher SORs than those not under fire.

TABLE 3  
*t* TESTS FOR DIFFERENCES BETWEEN MARINES UFO, UFNO, AND NUF  
ON SUPERIOR OFFICER RATINGS

Comparisons	UFO mean	UFNO mean	NUF mean	<i>t</i> value
<i>Validation sample</i>				
UFO × UFNO	5.458	4.876		4.72**
UFNO × NUF		4.876	4.685	2.73**
<i>Cross-validation sample</i>				
UFO × UFNO	5.337	4.883		3.38**
UFNO × NUF		4.883	4.682	2.96**

\*\*  $p < .01$ .

TABLE 4  
*t* TESTS FOR DIFFERENCES BETWEEN ADMINISTRATIVE NUISANCES UFO, UFNO,  
AND NUF ON SUPERIOR OFFICER RATINGS

Comparisons	UFO mean	UFNO mean	NUF mean	<i>t</i> value
UFO × UFNO	4.969	4.210		3.36**
UFNO × NUF		4.210	3.562	5.28**

\*\*  $p < .01$ .

#### D. DISCUSSION

The results of this study indicate that knowledge that a person has been in an extremely stressful environment has a positive influence on the estimation of



that individual's effectiveness. The SOR measure of effectiveness was found to be directly related to observation of a man's performance under fire compared with observation of a man's performance while not under fire. There was also support for the contention that actually seeing a man in the stressful situation had a much greater effect than mere knowledge that a man had been exposed to the stress.

One possible explanation of these findings was that a bias existed in the officers of the men evaluated, such that participation in a combat situation was equated with qualities consistent with the stereotypic image of a Marine. The differences in SORs between Marines who had been under fire but not observed compared to Marines not under fire lends some credence to this position. Another possible explanation was that battle conditions had a positive effect on individuals whose performance in noncombatant duties was substandard. Given the opportunity to demonstrate their ability in a high stress situation, these men produced. The possibility exists that there is, in fact, a "type" of individual whose motivation to succeed manifests itself predominantly in times of extreme stress. Still another possibility was that under the demanding conditions of combat, any performance short of running in the face of the enemy was deserving of commendation, and that this was, in turn, reflected in increased superior officer ratings.

Very likely, there were at least two significant factors contributing to the higher SORs of those Marines in combat. The fact that Marines rated by officers with knowledge that they had been in combat and had higher SORs than Marines NUF argues for a halo effect associated with the stereotype of the fighting Marine. Inasmuch as Marines observed under fire had higher SORs than Marines UFNO, however, either of two explanations are possible; a halo effect is stronger when direct observation contributes to one's preconceptions as compared to indirect knowledge of an event, or Marines actually perform in a superior fashion under combat conditions.

The failure of average conduct marks and average proficiency marks to differentiate between Marines in combat and Marines not in combat was congruent with the expectations of this study. It will be remembered that the average Marine in this study had spent 45.5 months on active duty and had been receiving conduct and proficiency marks for this entire period. Even an improvement in conduct or proficiency marks resulting from being observed under enemy fire could be expected to have less than a significant effect on the overall average grading. The fact that SOR was the only criterion which differentiated Marines under fire from Marines not under fire added credence to the relationship

which existed between evaluation of performance and actual observation of the performance under stress.

There was some evidence to support the belief that the previously ineffective soldier is capable of redeeming himself when placed in a combat situation. Berry & Nelson (1) had identified what they considered to be an "administrative nuisance" in the Marine Corps. The definitions assigned to this type of person were that he (a) had not risen above the lowest pay grade possible at the end of two years in the Corps, (b) had an average conduct mark lower than 4.0, (c) had three or more office hours for disciplinary reasons, or (d) had one or more courts martial. Assuming that the individuals in this study who occupied the two lowest pay grades were at the mean in terms of time in service, one of the definitions of an "administrative nuisance" might be expanded to include a Marine not having risen higher than private first class in more than  $3\frac{1}{2}$  years of service. Examinations of Table 4 showed that the administrative nuisance performed better under fire than those who had not been under fire, at least in terms of SOR. These results are, at best, suggestive of a possible improvement in performance, however, inasmuch as the *N* of administrative nuisances observed under fire was low, and the relationship between SOR and a Marine's actual performance is unclear.

Three conclusions are evident from this study: (a) Knowledge that a man has been in combat results in higher valuations than knowledge that he has not been in combat; (b) Observing a man in combat results in higher valuations than knowledge of combat experience without observation; and (c) Previously ineffective Marines receive mean ratings of above average when observed in combat, as compared to mean ratings of below average when they have not been in combat.

#### E. SUMMARY

A contingent of Marines, some of whom had been under fire (NUF), were compared with Marines who had been observed under fire (UFO) by their superior officers and with Marines who had been under fire but not observed (UFNO), on three criteria of effectiveness. Marines UFO received mean superior officer ratings of 5.383, compared to 4.880 for Marines UFNO and 4.687 for Marines NUF. All of these differences were significant ( $p < .01$ ). When these three groups of Marines were compared on average proficiency and conduct marks, received over their entire enlistment period, no differences obtained. Marines who were classifiable as administrative nuisances, but who were UFO, had mean superior officer ratings of 4.969, while administrative nuisances who were UFNO or NUF had ratings of 4.210, and 3.562, respec-

tively. These results indicate that knowledge that a man has been in combat will result in his receiving a higher SOR than if he had not been in combat, while actually observing him in combat will result in still higher valuations. Even men who have been administrative nuisances prior to combat experience are rated highly when observed in combat.

## REFERENCES

1. BERRY, N. H., & NELSON, P. D. Many are called. *Marine Corps Gazette*, 1966, **50**(8), 52-56.
2. PLAG, J. A., & GOFFMAN, J. M. The prediction of four-year military effectiveness from characteristics of naval recruits. *Milit. Med.*, 1966, **131**(8), 729-735.

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UNCLASSIFIED

Security Classification

## DOCUMENT CONTROL DATA - R &amp; D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY (Corporate author) Navy Medical Neuropsychiatric Research Unit San Diego, California 92152		2a. REPORT SECURITY CLASSIFICATION Unclassified	
3. REPORT TITLE The Effects of Combat Duty on Ratings by Superior Officers		2b. GROUP	
4. DESCRIPTIVE NOTES (Type of report and inclusive dates)			
5. AUTHOR(S) (First name, middle initial, last name) George A. CLUM			
6. REPORT DATE 1968		7a. TOTAL NO. OF PAGES 9	7b. NO. OF REFS 2
8a. CONTRACT OR GRANT NO.		9a. ORIGINATOR'S REPORT NUMBER(S) 68-7	
b. PROJECT NO. M4305.09-3001		9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)	
c.			
d.			
10. DISTRIBUTION STATEMENT This document has been approved for public release; its distribution is unlimited.			
11. SUPPLEMENTARY NOTES		12. SPONSORING MILITARY ACTIVITY Bureau of Medicine and Surgery Department of the Navy Washington, D. C. 20390	
13. ABSTRACT A contingent of Marines, some of whom had been under fire, were compared with Marines who had been observed under fire by their superior officers and with Marines who had been under fire but not observed, on three criteria of effectiveness. Marines UFO (observed under fire) received mean superior officer ratings of 5.383, compared to 4.880 for Marines UFNO (not observed under fire) and 4.687 for Marines NUF (not under fire). When these three groups of Marines were compared on average proficiency and conduct marks, received over their entire enlistment period, no differences obtained. Marines who were classifiable as administrative nuisances, but who were UFO, had mean superior officer ratings of 4.969, while administrative nuisances who were UFNO or NUF had ratings of 4.210, and 3.562, respectively. These results indicate that knowledge that a man has been in combat will result in his receiving a higher SOR (superior officer rating) than if he had not been in combat, while actually observing him in combat will result in still higher valuations. Even men who have been administrative nuisances prior to combat experience are rated highly when observed in combat.			

DD FORM 1473 (PAGE 1)

1 NOV 65

S/N 0101-807-6801

UNCLASSIFIED  
Security Classification

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Security Classification

14. KEY WORDS	LINK A		LINK B		LINK C	
	ROLE	WT	ROLE	WT	ROLE	WT
Marines Combat Ratings Halo effects						





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U.S. NAVY MEDICAL NEUROPSYCHIATRIC  
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